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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
QURESHI, AFSAR M	
ART UNIT	**PAPER NUMBER**
2667	13

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/371,983	KING, NIGEL J R	
	Examiner	Art Unit	
	Afsar M Qureshi	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 February 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

1. Responsive to amendment, received on February 13, 2004, amended claims 11 and 20 are entered as requested.

2. **The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.**

3. Claims 11, 12, 17-21, 25, and 26 are rejected under 35 U.S. C. 102(e) as being anticipated by Gardner et al. (US Patent No. 5,857,147), hereinafter referred to as Gardner.

Regarding claims 11 and 20. Gardner discloses a system and method including a base station (2) capable of communicating voice information to and from a user station (4) by way of fixed rate channels. The base station includes means (vocoder) for coding data at a plurality of different data rates (see col. 6 lines 40-43), and capacity management module (rate control logic) for monitoring the amount of data traffic at the base station (see col. 5 lines 51-54). Gardner further discloses the ability to reduce the data rate if the amount of data traffic at the base station exceeds a predetermined level (see col. 5-6 lines 65-9 and col. 8 lines 11-24). See also Block Diagram Figure 5. Furthermore, Gardner discloses the communications link between the Base station and the user station being a limited capacity link. See col. 6 lines 56 - 57, and FIGS. 9 and 10. Gardner further discloses that the vocoder can optionally be instructed to perform

variable rate vocoding on selected channels whilst leaving other channels, i.e., fixed rate channels, unchanged (see col. 2, lines 66 through col. 3, lines 1-8).

Regarding claims 12 and 21. Gardner further discloses coding the channel in a progressive manner dependent on available bandwidth. See col. 6 lines 6-16.

Regarding claims 17 and 25. Gardner further discloses a system for controlling transmission rates in the uplink (forward) and downlink (reverse) directions specifying a plurality of rates for which the vocoder can encode the data (see col. 6 lines 40-44) thereby allowing equal transmission rates in both directions.

Regarding claim 18. Gardner discloses an embodiment of the invention directed to speech transmission (see col. 1-2 lines 64-7), fixed rate channels being voice band channels is inherent to Gardner.

Regarding claims 19 and 26 Gardner further discloses the system being a fixed wireless access system, i.e. plurality of user stations (4) communicating via an integrated base station (2) using wireless media. See FIG. 2.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gardner in view of Hsu et al. (US Patent No. 6,314,112) hereinafter referred to as Hsu.

Regarding claim 13. Gardner discloses all of the limitations as recited above with respect to claim 12.

Gardner does not disclose a bit rate of 32 kbps in each of the two channels and the coding scheme for the channel comprising a bit rate of up to one of 64, 32, 16, and 8 kbps.

Hsu discloses an apparatus for transmission capacity enhancement including two fixed rate channels of 32 kbps, where the coding is one of 8 kbps-64 kbps. See col. 6 lines 4-10.

At the time the invention was made it would have been obvious to one of ordinary skill in the art to include the two fixed rate channels with the aforementioned coding rates, as disclosed by Hsu, in the invention as disclosed by Gardner.

One of ordinary skill in the art would have been motivated to do this to increase the network transmission capacity and to allow for compatibility for the invention with widely used existing T1 and E1 interfaces and network elements.

5. Claims 14-16, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gardner in view of Luddy (US Patent No. 5,953,346).

Regarding claims 14, 15, 22, and 23. Gardner discloses all of the limitations as recited above with respect to claim 11.

Gardner does not disclose on detection of atone, switching the variable data rate channel to a variable data rate channel having a maximum bit rate dependant upon what portion of the fixed channels are allocated.

Luddy discloses a system including upon detection of a calling (data) tone initiating a switch from 32 Kb/s ADPCM to 64 Kb/s PCM that is implemented by the base station. Since the switch is implemented by the base station it is inherent to Luddy that this must be communicated to the base station. See co14 lines 26-41.

At the time the invention was made it would have been obvious to one of ordinary skill in the art to include the switch between 32Kb/s and 64Kb/s upon tone detection, as disclosed by Luddy, into the invention as disclosed by Gardner.

One of ordinary skill in the art would be motivated to do this in order to provide for high speed data transmission (see Luddy col. 4 lines 34-35) and to provide seamless compatibility with all PSTN voice band modems.

Regarding claims 16 and 24 Gardner in view of Luddy discloses all of the limitations as recited above with respect to claims 14 and 22. Gardner further discloses checking the available bandwidth of the channels and if there is not sufficient bandwidth providing a variable bit rate channel and coding scheme having a permissible data rate. See col. 5 line 65 - col. 6 line 8.

Gardner in view of Luddy does not disclose the permissible data rate being the highest permissible data rate.

At the time the invention was made it would have been obvious to one of ordinary skill in the art to provide the highest permissible data rate in the invention as disclosed by Gardner in view of Luddy.

One of ordinary skill in the art would have been motivated to do this in order to provide the most efficient and fastest transmission possible, thereby making the invention faster and more efficient.

Response to Arguments

Applicant's arguments with respect to claims 11-26 have been considered. All the arguments were addressed in the previous Office action. For the convenience of the Applicant, the response is as follows:

Applicant contends that Gardner does not teach use of "a number of fixed bit rate channels for providing a fixed bandwidth voice service between said user station and said base station and a variable bit rate data channel," or "if available bandwidth falls below a predetermined threshold the capacity management module is arranged to implement a reduced bit rate coding scheme for the variable bit rate data channel. 4. The examiner respectfully contends that the present invention does indeed disclose use of "a number of fixed bit rate channels for providing a fixed bandwidth voice service between said user station and said base station and a variable bit rate data channel," or "if available bandwidth falls below a pre-determined threshold the capacity management module is arranged to implement a reduced bit rate coding scheme for the variable bit rate data channel. Gardner discloses a limited capacity link between user station and base station (See col. 6 lines 56 - 57, and FIGs. 9 and 10) including a number of fixed bit rate channels (FIGs. 6, 7, 9, and 10) in a TDMA or CDMA wireless communications system (see col. 7 lines 8 - 51), and a variable bit rate channel (the total channel

comprised of all fixed bit rate channels). Gardner further discloses the ability to change the coding rate at which the fixed rate channels transmit, yet whatever rate the channels are assigned is fixed until the time at which the communications system determines that the bandwidth has again fallen below a pre-determined threshold. Furthermore, Gardner does indeed disclose a capacity management (rate control logic) for monitoring the amount of data traffic at the base station (see col. 5 lines 51-54) and to implement a reduced bit rate coding scheme for the variable bit rate data channel, which is comprised of the fixed data rate channels (see col. 5-6 lines 65-9 and col. 8 lines 11-24, see also col. 6 lines 37 -53).

Finally, the Applicant contends that Gardner does not teach treating voice and data channels differently. This is the new limitation added to claims 11 and 20.

However, it is well known that voice data in general requires a constant bandwidth connection using TDM techniques in which each data stream is assigned a specific amount of bandwidth, e.g., SONET/SDH/PDH, based on a standardized increments related to the amount of data needed to provide a standard voice phone call. Also known and old is that voice services require a fixed and common grade of services (GOS) for all users typically for digital systems providing voice services. The vocoder, disclosed by Gardner et al., can optionally be instructed to perform variable rate vocoding on specific channels whilst leaving other channels, i.e., fixed rate channels, unchanged (see col. 2, lines 66 through col. 3, lines 1-8).

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afsar M Qureshi whose telephone number is (703) 308 8542.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305 4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AFSAR QURESHI
PATENT EXAMINER

April 27, 2003